

Commonwealth of Kentucky
Division for Air Quality
EXECUTIVE SUMMARY

FINAL

Conditional Major, Construction / Operating

Permit: F-08-030

Kentucky Energy Hub

Mortons Gap, KY 42440

October 8, 2008

Julian D. Breckenridge, Reviewer

SOURCE ID: 21-107-00159

AGENCY INTEREST: 82821

ACTIVITY: APE20080002

SOURCE DESCRIPTION:

Orbit Gas Storage, Inc. (OGS) is seeking to construct and operate a natural gas compressor station called Kentucky Energy Hub (the Project) in Hopkins County, Kentucky. OGS is proposing to convert the existing depleted White Plains Gas Field and connect its pipeline header to the interstate pipeline grid. The White Plains Gas Storage Field is located in the southern part of Hopkins County, near the intersection of the Pennyryle Parkway and the Western Kentucky Parkway at approximately six miles southeast of the City of Madisonville. The Project will contain approximately 5 billion cubic feet of working capacity and up to 100 million standard cubic feet per day (mmscf/d) of injection and withdrawal capacity. It will also consist of the installation of 10 new horizontal injection/ withdrawal wells on three well pads and a field header system sufficient to support the injection and withdrawal of gas supplies at the new storage facility. The proposed 8.6-mile-long x 16-inch-diameter field header pipeline will connect the storage field to the proposed compressor station. To the west of the compressor station, the 24-inch-diameter OGS Pipeline will continue for approximately 13.3 miles to an interconnect with the existing ANR Pipeline Company (ANR) pipeline system near Rabbit Ridge, Kentucky.

The compressor station will include three (3) reciprocating compressor units each driven by identical Caterpillar G3606 natural gas-fired internal combustion engines rated at 1,775 brake horsepower (bhp). Each engine will be equipped with an integral silencer/ oxidation catalyst to minimize emissions of carbon monoxide (CO) and hydrocarbons such as formaldehyde. The facility will also have a 250-kilowatt auxiliary generator using a natural gas-fired reciprocating engine. The auxiliary unit will only be operated intermittently for testing, but permitted to operate for up to 500 hours per year. Finally, a glycol gas dehydrator and glycol regenerator heater will be used to remove water vapor from the natural gas prior to transport.

On May 15, 2008 the Division for Air Quality (Division) received a permit application from OGS for the proposed operation of the Project scheduled for April 2009. The application was for the construction/operating authority of a major source to be processed under 401 KAR 52:020. After reviewing and completing the application on September 24, 2008, the source decided to become a minor source with a conditional major permit of federally enforceable limits under 401 KAR 52:030. The source will have maximum uncontrolled emissions of approximately 129 tons per year of carbon

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monoxide (CO). With the oxidation catalysts on the compressor engines, the source will be able to achieve CO limits below major source thresholds. Even though potential emissions for volatile organic compounds (VOC) and single hazardous air pollutants (HAP) will be below major source thresholds, the source also requested federally enforceable limits for VOC and single and combined HAPs.

PUBLIC AND U.S. EPA REVIEW:

On February 22, 2009, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *The Messenger* in Madisonville, Kentucky. In addition, notification of the issuance of the draft permit was sent to the U.S. EPA on February 20, 2009 via e-mail. The public comment period expired 30 days from the date of publication. No comments were received during this period. The permit is now being issued final.